

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (canceled)

2. (canceled)

3. (canceled)

4. (currently amended) A The hard disk drive library of claim 1, further comprising:

a first plurality of hard disk drive storage slots;

a first plurality of backplane connectors;

a first plurality of hard disk drives removably disposed within said first plurality of hard disk drive storage slots, wherein each of said first plurality of hard disk drives is in physical and electrical contact with one of said first plurality of backplane connectors;

a power source which supplies power to each of said first plurality of backplane connectors;

a controller, wherein said controller provides first information to each of said first plurality of hard disk drives;

a first plurality of display devices, wherein each of said first plurality of display devices is connected to said power source, and wherein each of said first plurality of display devices is disposed adjacent one of said plurality of hard disk drive storage slots;

a display apparatus, wherein said display apparatus displays the status of each of said plurality of hard disk drive storage slots, and wherein said display apparatus displays the status

of each hard disk drive disposed within said hard disk drive library;

a first storage wall having a front and a back, a top and a bottom, and a first side and an opposing second side, wherein said first plurality of storage slots is disposed within said first storage wall;

a utilities module having a front and a back, a top and a bottom, and a first side and an opposing second side, wherein said back of said first storage wall is disposed adjacent said front of said utilities module; and

wherein each of said first plurality of backplane connectors is disposed on said front of said utilities module;

wherein said power supply module is disposed adjacent said bottom of said first structure and adjacent said bottom of said utilities module.

5. (original) The hard disk drive library of claim 4, wherein said first storage wall is pivotably disposed on said utilities module.

6. (original) The hard disk drive library of claim 5, wherein said first storage wall, said utilities module, and said power source are rectangular in shape.

7. (original) The hard disk drive library of claim 6, further comprising a first door pivotably disposed on said front of said first storage wall.

8. (original) The hard disk drive library of claim 5, wherein said first storage wall, said utilities module, and said power source are cylindrical in shape.

9 (original) The hard disk drive library of claim 8, further comprising a first door pivotably disposed on said front of said first storage wall and a second door pivotably disposed on said front of said first storage wall.

10. (original) The hard disk drive library of claim 4, further comprising:
- a second plurality of hard disk drive storage slots;
 - a second plurality of backplane connectors disposed on said rear of said utilities module;
 - a second storage wall having a front and a back, a top and a bottom, and a first side and an opposing second side, wherein said second plurality of hard disk drive storage slots is disposed within said second storage wall, and wherein said back of said second storage wall is disposed adjacent said back of said utilities module; and
 - a second plurality of hard disk drives removably disposed within said second plurality of hard disk drive storage slots, such that each of said second plurality of hard disk drives is in physical and electrical contact with one of said second plurality of backplane connectors.
11. (original) The hard disk drive library of claim 10, wherein said second storage wall is pivotably disposed on back of said utilities module.
12. (original) The hard disk drive library of claim 10, further comprising a second door pivotably disposed on said front of said second storage wall.
13. (original) A data storage and retrieval system, comprising:
- a first plurality of hard disk drive storage slots;
 - a first plurality of backplane connectors;
 - a first plurality of hard disk drives removably disposed within said first plurality of hard disk drive storage slots, such that each of said first plurality of hard disk drives is in electrical contact with one of said first plurality of backplane connectors;
 - a first switch;

a first plurality of read/write encoders;

a first plurality of communication links, wherein one of said first plurality of communication links connects one of said first plurality of backplane connectors with one of said first plurality of read/write encoders;

a second plurality of communication links, wherein one of said second plurality of communication links connects one of said first plurality of read/write encoders to said first switch;

a controller, wherein said controller is connected to said switch by a third communication link; and

one or a plurality of first external servers;

one or a plurality of fourth communication links, wherein one of said one or a plurality of fourth communication links connects each of said one or a plurality of first external servers to said first switch.

14. (original) The data storage and retrieval system of claim 13, further comprising:

a second switch;

a second plurality of read/write encoders;

a fifth plurality of communication links, wherein one of said fifth plurality of communication links connects one of said first plurality of backplane connectors with one of said second plurality of read/write encoders;

a sixth plurality of communication links, wherein one of said sixth plurality of communication links connects one of said second plurality of read/write encoders to said second switch;

one or a plurality of second external servers;

one or a plurality of seventh communication links, wherein one of said one or a plurality of seventh communication links connects each of said one or a plurality of second external servers to said second switch.

15. (withdrawn) A method for storing data in, and retrieving data from, a hard disk drive library, said hard disk drive library comprising a plurality of storage slots, one or a plurality of resident hard disk drives removably disposed in said plurality of storage slots, a directory comprising one or a plurality of resident hard disk drive volser, a controller in communication with each of said plurality of resident hard disk drives, and one or a plurality of external servers in communication with each of said plurality of resident hard disk drives, said method comprising the steps of:

inserting a non-resident hard disk drive into one of said plurality of storage slots;

operating said non-resident hard disk drive;

comparing said non-resident hard disk drive volser to said one or a plurality of resident hard disk drive volsers;

terminating operation of said non-resident hard disk drive if said non-resident volser matches one or more of said one or a plurality of resident hard disk drive volsers;

updating said directory to include said non-resident hard disk drive volser if said non-resident hard disk drive volser does not match one or more of said one or a plurality of resident hard disk drive volsers;

communicating said updated directory to each of said one or plurality of external servers.

16. (withdrawn) The method of claim 15, further comprising the steps of:
balancing the power distribution within said hard disk drive library; and
optimizing the dissipation of thermal energy generated within said hard disk drive library.

17. (withdrawn) The method of claim 16, further comprising the steps of:
monitoring the status of each of said plurality of storage slots; and
displaying the status of each of said plurality of storage slots.

18. (withdrawn) A hard disk drive library comprising a computer useable medium having computer readable program code disposed therein for optimizing power distribution within said hard disk drive library, wherein said hard disk drive library comprises a plurality of hard disk drive storage slots and one or more resident hard disk drives removably disposed in said plurality of hard disk drive storage slots, the computer readable program code comprising a series of computer readable program steps to effect:

monitoring the power requirements of said one or more resident hard disk drives;
upon a request to add a non-resident hard disk drive to said hard disk drive library,
estimating the power requirements of said non-resident hard disk drive; and
recommending insertion of said non-resident hard disk drive into one of said plurality of hard disk drive storage slots based upon the combined power requirements of said resident hard disk drives and said non-resident hard disk drive.

19. (withdrawn) A hard disk drive library comprising a computer usable medium having computer readable program code disposed therein for optimizing thermal energy dissipation within said hard disk drive library, wherein said hard disk drive library comprises a

plurality of hard disk drive storage slots and one or more resident hard disk drives removably disposed in said plurality of hard disk drive storage slots, the computer readable program code comprising a series of computer readable program steps to effect:

monitoring the thermal energy generated by said one or more resident hard disk drives;

and

monitoring the dissipation of said thermal energy from said hard disk drive library.

20. (withdrawn) The hard disk drive library of claim 19, said computer readable program code further comprising a series of computer readable program steps to effect:

upon a request to add a non-resident hard disk drive to said hard disk drive library, estimating the thermal energy generated by said non-resident hard disk drive; and

recommending insertion of said non-resident hard disk drive into one of said plurality of hard disk drive storage slots in order to optimize the dissipation of the total thermal energy generated by said resident hard disk drives and by said non-resident hard disk drive.

21. (withdrawn) A hard disk drive library comprising a computer usable medium having computer readable program code disposed therein for creating and maintaining a directory for said hard disk drive library, wherein said hard disk drive library comprises a plurality of hard disk drive storage slots and one or a plurality of resident hard disk drives removably disposed in said plurality of hard disk drive storage slots, one or a plurality of resident volsters, wherein each of said one or a plurality of resident hard disk drives comprises one of said one or a plurality of resident volsters, the computer readable program code comprising a series of computer readable program steps to effect:

reading the said one or a plurality of resident volsters from said one or a plurality of said

resident hard disk drives; and

storing said one or a plurality of resident volser in said directory.

22. (withdrawn) The hard disk drive library of claim 21, said computer readable program code further comprising a series of computer readable program steps to effect:

upon insertion of a non-resident hard disk drive into one of said plurality of hard disk drive storage slots, reading the volser of said non-resident hard disk drive;

comparing said non-resident volser with said directory;

generating an error message if said non-resident volser matches one or of said one or a plurality of resident volsers; and

adding said non-resident volser to said directory if said non-resident volser does not match one or more of said one or a plurality of resident volsers.